



(Clean Copy version) PLANT PATENT

[File No. 10451.0040.NPUS01]

APPLICATION FOR UNITED STATES PLANT PATENT

for

CHRYSANTHEMUM PLANT NAMED 'STEPS'

by

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This application claims the benefit of U.S. Provisional Application No. 60/396,826, filed July 17, 2002.

LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: *Chrysanthemum morifolium*.

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VARIETY DENOMINATION

The new Chrysanthemum variety denomination is 'Steps.'

BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as *Chrysanthemum morifolium*, and referred to by the cultivar name 'Steps'. 'Steps', identified as '21174-0' originated from a cross made in a controlled breeding program in Chichester, West Sussex, United Kingdom. The female parent of the new variety is an undistributed, unpatented seedling identified as 'P371D4.' The male parent of the new variety is an undistributed, unpatented seedling identified as 'P381D4.'

The new variety 'Steps' has been asexually reproduced by vegetative cuttings in Chichester, West Sussex, United Kingdom and the distinguishing characteristics are retained through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

'Steps' is a pot type of Chrysanthemum plant variety having dark pink single spoon flowers.

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Comparison with Female Parent

Plants of the new Chrysanthemum variety 'Steps' are dissimilar to the parent 'P371D4' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of the parent 'P371D4' in the following characteristics.

1. The new variety 'Steps' produces dark pink single spoon flowers whereas the parent 'P371D4' produces bronze single flowers.
2. Plants of the new variety 'Steps' have similar size and similar height inflorescence to plants of the parent 'P371D4.'

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Comparison with Male Parent

Plants of the new Chrysanthemum variety 'Steps' are dissimilar to the male parent 'P381D4' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' differed from plants of the parent 'P381D4' in the following characteristics.

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1. The new variety 'Steps' produces dark pink single spoon flowers whereas the parent 'P381D4' produces pink single flowers.
2. Plants of the new variety 'Steps' have smaller and shorter inflorescence than plants of the parent 'P381D4'.

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Comparison with Other Varieties

Plants of the new Chrysanthemum variety 'Steps' are similar to 'Scott' (U.S. Plant Patent No. 14,155) in plant habitat and growth rate. However, in side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of 'Scott' in the following characteristics.

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1. The new variety 'Steps' produces dark pink single spoon flowers whereas 'Scott' produces purple single spoon flowers.
2. Plants of the new variety 'Steps' have larger and taller inflorescence than plants of 'Scott'.

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BRIEF DESCRIPTION OF ILLUSTRATIONS

Typical specimens of the plant and flowers for the new Chrysanthemum variety 'Steps' are shown in the accompanying digital photograph. The colors shown are as true

as possible within the usual limits of this kind of illustration. Figure 1 is a whole plant view of the new variety 'Steps' grown in a pot. The plant shown in the illustration is 55 days after the commencement of Short Days.

DETAILED BOTANICAL DESCRIPTION

5 The following description of the new Chrysanthemum variety 'Steps' is of plants grown in a greenhouse in Chichester, West Sussex, United Kingdom in the month of February. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. The
10 commercial classification of the new variety is a pot Chrysanthemum.

Plants of the new variety have been grown successfully under temperature conditions averaging about 18°C at night and about 24°C to 25°C during the day under light conditions of about 5000 to 6000 foot candles. The plants respond well to the use of growth retardant, such as B9 treatment. To produce a commercial product the plants may
15 be pinched once with the center bud removed. The typical container size for commercial growth is 14 cm. It has been observed that the shelf life of the new variety is about 24 days with a response time of about 8 weeks. The new variety is suitable for growth in a temperature range of 17°C to 28°C

The following description is with respect to a plant produced as pot
20 Chrysanthemum. In the description of this new Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

Plant

Plant type: Pot

Habit: Upright and free branching

25 Height: 24 cm

Width: 34 cm

Branching characteristics: Upright and free branching

Length of Lateral Branches: 6-11 cm

Diameter of Lateral Branches: 0.5-0.6 cm

30 Texture of Lateral Branches: Slightly pubescent

- Number of Breaks from Pinch: 3-5
- Stem Color: 137C
- Stem Length: 5.5-6 cm
- Stem Diameter: 0.6 cm
- 5 Response Time: 55
- Vigor: Medium
- Shelf Life: 24 days
- Disease/Pest (Susceptibility/Resistance observed): None observed to date
- Growth retardant type and treatment: 3 applications of 2.5 gm/liter B9 @ 2, 21 and 28
- 10 days after sticking of unrooted cuttings.
- The plants were grown for 3 weeks in Long Day conditions (20 hours of light) and then transferred to Short Day conditions (13 hours of dark).
- Propagation:
- Type:* Vegetative Propagation Via Stem Cuttings
- 15 *Time to rooting:* 12-14 days with soil temperatures of 18°C.
- Rooting habit:* Fine and Fibrous
- Other treatments or conditions: None
- Foliage
- Number of Leaves Per Lateral Branch: 8-10
- 20 Compound or single: Single
- Arrangement of Leaves: Alternate
- Shape of Leaf: typically 5 lobed ovate
- Size of Leaf: *Width (cm):* 3-7 cm *Length (cm):* 4-10 cm
- Leaf Apex: Rounded
- 25 Base: Acute
- Attachment: Petioled
- Aspect: Slightly undulating
- Margin: Palmetely lobed
- Surface characteristics: *Top:* Slightly pubescent
- 30 *Bottom:* Pubescent

Petiole: *Color:* 137C
Length: 1.5 cm
Diameter: 0.2 cm
Texture: Slightly pubescent

5 Venation: Net prominent midvein at underside

Color: upper side: Near 138B

under side: Near 138C

Color: Mature Leaf, *upper side*: Near 137A; *under side*: Near 138A

Young Leaf, *upper side*: Near 137B; *under side*: Near 137C

10 Flower

Flower appearance: Matte

Flower type: Single

Flower form: Cupped

Flower shape: Circular

15 Flower habit: Cyme

Number of blossoms per branch: 3-5

Inflorescence form: Pyramid

Depth of fully expanded blossoms: 1.5 cm

Diameter of fully expanded blossoms: 8.5 cm

20 **Sepals:**

Number: 25-30

Outer Color: Near 137C

Length: 0.5-0.8 cm

Width: 0.1-0.3 cm

25 *Texture/Appearance:* Pubescent

Peduncle: Peduncle length is shortest at the terminal flower and progressively longer moving down the stem

Length: 3 – 10 cm, average 5 cm

Diameter: 0.5-0.6 cm

30 *Color:* Near 137

Surface: Pubescent

Habit: Slightly Curving

Strength: Moderately strong

Pedicel:

- 5 *Length:* terminal: 2.5-6 cm; lateral: 2.5-8 cm
 Diameter: 0.2-0.3 cm
 Color: Near 138B
 Surface: Pubescent
 Habit: Slightly Curving
 Strength: Moderately strong

Ray Florets:

- 10 *Form/Shape:* Spatulate
 Texture/Appearance: Matte
 Number per flower: 30-35
 Length: 2.5 to 5 cm; *Width:* 0.3-1 cm *Apex:* Rounded
 Base: Tubular
15 *Corolla tube length:* 1 cm
 Corolla tube diameter: 0.2 cm
 Spoon length: 1.5 cm
 Spoon width: 0.3-1 cm
 Margin: Entire

Disc florets:

- 20 *Form/Shape:* Cylindrical
 Texture/Appearance: Shiny
 Number per flower: 200-300
 Length: 0.6 cm; *Width* 0.1 cm
 Diameter of disc: 2 cm

- 25 *Fragrance:* None

Flower Bud (at onset of color):

- 30 *Length:* 1 cm
 Diameter: 1.2 cm
 Form/shape: Globular

General flower color:

1. Ray florets, Spoon, *upper side:*
 Immature: Near 67A
 Mature: Near 67B
35 *Older/Fading:* Near 67C
 Corolla tube, inner side: 67A

Corolla tube, *outer side*: 65B

2. Ray florets, Spoon, *under side*:

Immature: Near 67B

Mature: Near 67D

Older/Fading: Near 73B

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3. Disc florets:

Immature: Near 143A

Mature: Near 144B

Older/Fading: Near 151A

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4. Bud: 138B

Flower progression with age: No change in flower form, slight colour fading as flowers mature.

Lastingness of blooms: about 24 days

Reproductive Organs

- 15 Gynoecium present on Ray and Disc Florets.

Ray Florets per individual flower:

Pistil number: about 30

Stigma color: Near 5B

Stigma shape: Forked

Style Color: Near 5B

Style Length: 0.5 cm

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Disc Florets per individual flower:

Pistil Number: about 30

Stigma color: Near 7A

Stigma shape: Forked

Style Color: Near 7A

Style Length: 0.4 cm

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Androecium not observed.

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Fruit and Seeds: None observed to date